SOCIETIES AND ACADEMIES.

LONDON.

Entomological Society, April 13.—Mr. Henry John Elwes, Vice-President, in the chair.—Mr. R. McLachlan, F.R.S., exhibited specimens of a Caddis-fly remarkable for the abbreviated wings of the male, the female having fully developed wings. He alluded to the *Perlidæ* as including species in which the males were frequently semi-apterous. Dr. Sharp, F.R.S., inquired if Mr. McLachlan was aware of any order of insects, except the Neuroptera, in which the organs of flight were less developed in the male than in the female. Mr. C. G Barrett and Mr. H. J. Elwes cited instances amongst the *Bombycidæ* in which the wings of the male were inferior in size and development to those of the female.—Dr. Sharp exhibited specimens of both sexes of an apparently nondescript Phasmid insect allied to *Orobia*, obtained by Mr. J. J. Lister in the Seychelles Islands, together with *Phyllium gelonus.* He also exhibited specimens of both sexes of an insect remarkable for its great general resemblance to the *Phasmidæ*, though without resemblance, so far as is known, to any particular species. In reference to the *Phyllium*, Dr. Sharp called attention to the fact that the similarity of appearance of parts of their organization to portions of the vegetable kingdom was accompanied by a similarity, amounting almost to identity, of minute structure. He said that it had been stated that the colouring-matter is indistinguishable from chlorophyll, and that Mr. Lister had informed him that when in want of food a specimen of the *Phyllium* would eat portions of the foliaceous expansions of its fellows, although the *Phasmidæ* are phytophagous insects. The resemblance to vegetable products reached its maximum of development in the egg; and M. Henneguy had observed that when sections of the external envelope of the egg of *Phyllium* are placed under the microscope no competent botanist would hesitate to pronounce them to belong to the vegetable kingdom.—Mr. Barrett exhibited, for Major J. N. Still, a specimen of *Notodonta bicolora*, which had been captured in a wood near Exeter. Major Still had stated that the captor of the specimen was unaware of the great rarity of the species. Mr. Barrett also exhibited, for Mr. Sydney Webb, some remarkable varieties of *Argynnis adippe* and *Cœnonympha pamphilus;* also two specimens of *Apatura iris*, and two of *Limenitis sybilla* in which the white bands were entirely absent.—The Hon. Walter Rothschild exhibited, and contributed preliminary notes on, some hundreds of Lepidoptera, representative of a collection of about 5000 specimens recently made by Mr. W. Doherty, in the south-west of Celebes. Many of the species were new, and others very rare. Mr. Elwes, Colonel Swinhoe, and Mr. S. Stevens commented on the interesting nature of this collection.—Mr. E. B. Poulton, F.R.S., gave a lecture "On the Denudation of the Scales in certain Species of Lepidoptera," and illustrated it by a large number of photographs shown by means of the oxy-hydrogen lantern. Mr. G. F. Hampson, Mr. Elwes, and Mr. Poulton took part in the discussion which ensued.

Royal Meteorological Society, April 20.—Dr. C. Theodore Williams, President, in the chair.—Reference was made to the death of Dr. J. W. Tripe, who had held the office of Council Secretary for the last twenty years, and a resolution of sympathy with the family was passed by the meeting.—The following papers were read:—Anemometer comparisons, by Mr. W. H. Dines. This was a report on a valuable series of experiments which have been carried out at the request of the Council of the Society, with the view of obtaining a direct comparison of the various anemometers in common use, so that some opinion might be formed as to which type of instrument is the most suitable for general purposes. The Meteorological Council have defrayed the cost of the work. The anemometers which were compared were—(1) Kew pattern Robinson; (2) self-adjusting helicoid; (3) air meter; (4) circular pressure plate (one foot in diameter); and (5) a special modification of tube anemometer. Most of these instruments are of the author's own invention, as well as the apparatus for obtaining automatic and simultaneous records from all the instruments upon the same sheet of paper. It appears that the factor of the Kew pattern Robinson is practically constant, and must lie between 2·00 and 2·20. The helicoid anemometer is quite independent of friction for all excepting light winds, and different sizes read alike, but it is not so simple in construction as the cup form. The air meter consists of a single screw blade formed of thin aluminium, and made as nearly as possible into the exact shape of a portion of a helicoid. A similar instrument with a larger blade, and with the dial protected from the weather, would probably form a useful and correct anemometer. It would be light, and offer a very trifling resistance to the wind. The oscillations of the pressure plate must have been considerably damped by the action of the floating weight, but as it was, they were sufficiently violent. It seems probable that the remarkably high values sometimes given by the Osler pressure plate may be due to the inertia of the moving parts. The tube anemometer appears to possess numerous advantages. The head is simple in construction, and so strong that it is practically indestructible by the most violent hurricane. The recording apparatus can be placed at any reasonable distance from the head, and the connecting pipes may go round several sharp corners without harm. The power is conveyed from the head without loss by friction, and hence the instrument may be made sensitive to very low velocities without impairing its ability to resist the most severe gale.—The hurricane over the West Indies, August 18–27, 1891, by Mr. F. Watts. The author has collected a number of observations on this violent hurricane, which on August 18 swept from the Atlantic into the Caribbean Sea, and moved in a north-north-westerly direction over San Domingo, and thence northward and eastward. At Martinique the barometer, which at 5.30 p.m. stood at 29·80 inches, fell to 28·38 inches at 8.15 p.m., during the passing of the centre of the cyclone.

Chemical Society, March 30.—Annual General Meeting.—Prof. A. Crum Brown, F.R.S., President, in the chair.—The President delivered an address, in the first part of which he referred to the favourable position of the Society. In the remainder of his address he dwelt chiefly on the work which is being done on the border-lines of chemistry proper, referring both to that by which an approach is gradually being made towards understanding the chemistry of Nature's organic laboratory, and to the solution of chemical problems by the application of mathematical and physical methods of inquiry. A vote of thanks to the President was carried by acclamation.—After the usual reports by the officers of the Society had been presented, a ballot was taken for the election of officers and Council for the ensuing year. The following were subsequently declared elected:—President: A. Crum Brown, F.R.S. Vice-Presidents who have filled the office of President: Sir F. Abel, F.R.S.; W. Crookes, F.R.S.; E. Frankland, F.R.S; J. H. Gilbert, F.R.S; J. H. Gladstone, F.R.S.; A. W. Hofmann, F.R.S.; H. Müller, F.R.S.; W. Odling, F.R.S.; W. H. Perkin, F.R.S.; Sir L. Playfair, F.R.S.; Sir H. E. Roscoe, F.R.S.; W. J. Russell, F.R.S.; A. W. Williamson, F.R.S. Vice-Presidents: A. V. Harcourt, F.R.S.; W. N. Hartley, F.R.S.; J. Pattinson; W. Ramsay, F.R.S.; W. A. Tilden, F.R.S.; R. Warington, F.R.S. Secretaries: H. E. Armstrong, F.R.S.; J. M. Thomson. Foreign Secretary: R. Meldola, F.R.S. Treasurer: T. E. Thorpe, F.R.S. Ordinary members of Council: H. Bassett; N. Collie: H. Dixon, F.R.S.; J. Ferguson; R. J. Friswell; J. Heron; M. M. P. Muir; F. J. M. Page; W. H. Perkin, Jun. F.R.S.; S. U. Pickering; J. A. Voelcker; W. P. Wynne.—Correction of a note on a new acid from camphoric acid, by W. H. Perkin, Jun. The author desires to express regret that he had overlooked a previous paper by Damsky, in which an account is given of the acid recently described by him as new.

Mathematical Society, April 14.—Prof. Greenhill, F.R.S., President, in the chair.—The following six foreign mathematicians were elected Honorary Members of the Society, viz. Messrs. Poincaré, Hertz, Schwarz, Mittag-Leffler, Beltrami, and Willard Gibbs.—The following short communications were made:—Second note on a quaternary group of 51,840 linear substitutions, by Dr. Morrice.—Note on the skew surfaces applicable upon a given skew surface, by Prof. Cayley, F.R.S.—Mr. A. B. Kempe, F.R.S., made an *impromptu* communication on regular graphs.—Mr. J. J. Walker, F.R.S., Dr. M. J. M. Hill, Lieut.-Colonel Cunningham, and the President joined in the discussion on the above communications.

EDINBURGH.

Royal Society, April 4.—Sir Arthur Mitchell, Vice-President, in the chair.—Dr. Thomas Muir read a paper on a problem of Sylvester's in elimination, and also a note on Prof. Cayley's proof that a triangle and its reciprocal are in

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perspective.—Prof. Blackie read a paper on the most recent phases of Greek literary style. The style of the educated Greek and the popular style were brought into closer correspondence than previously at the commencement of the present century, chiefly through the influence of Coraes. In this paper Prof. Blackie investigates the result of that amalgamation. Since 1830, the development of the Greek language has been most marked. The higher classical style has been constantly gaining ground, so that popular and literary Greek now differs as little from ancient classical Greek as Scotch does from English; while, previous to the time of Coraes, they were as distinct as present-day English is from the English of Chaucer. The author gives examples of the deviations of the literary and popular Greek of various epochs from ancient Greek, which prove a rapid return to the ancient purity of language. Thus, while in twelve lines of Romaic Greek eighteen or twenty deviations from the pure style may be found, in twelve lines of modern Greek only two or three such deviations appear. In the first five verses of the second chapter of Luke, nineteen deviations occur in the Romaic New Testament, while in the same passage in the English Bible Society's version of 1890 only four are found. In two pages of a recent number of a Greek newspaper only two deviations occur.—Dr. Berry Haycraft communicated a contribution, by Mr. F. E. Beddard, to the anatomy of *Sutroa*

Paris.

Academy of Sciences, April 19.—M. d'Abbadie in the chair.—Calculation of the diminution which is experienced by the mean pressure on a fixed horizontal plane, in the interior of a heavy liquid filling a basin and agitated by certain wave motions, by M. J. Boussinesq.—Note by M. Faye accompanying the presentation of celestial photographs obtained at Heidelberg by Dr. Max Wolf, Director of the Observatory. The photographs commented upon by M. Faye are those recently taken of a part of Cygnus, and that on which the trail of a new asteroid was detected; also a picture showing a shooting-star which crossed the field of observation during exposure. The photographs were taken by means of a portrait-lens 2½ inches in diameter —On the optical measure of high temperatures, by M. A. Crova.—Researches on the formation of planets and satellites: memoir by M. E. Roger, presented by M. Jordan. The author has developed a complex relation connecting the distances of planets from the sun, and also one connecting the distances of planets from their satellites.—Observations of Swift's comet (1892 March 6), made with the Brunner equatorial of Lyons Observatory, by M. G. Le Cadet. Observations for position were made on April 3, 4, 8, 9, 11, and 15.—On differential invariants of a surface with respect to conformable transformations of space, by M. Arthur Tresse.—On the accuracy of comparisons of a *mètre à bouts* with a *mètre à traits*, by M. Bosscha.—Researches on the secondary wood of Apetales, by M. C. Houlbert.—On the relations existing between the form and nature of the beds of andalusite at Ariège, by M. A. Lacroix. It appears that at Ariège the form of the andalusite is characteristic in each bed to such an extent that, given a geological map of the region, it is possible to indicate *a priori* where the mineral would be found, and conversely, given a specimen of andalusite, the geological nature of the bed from which it was taken could be stated with very little chance of error. The facts described by M. Lacroix are thus as useful to the geologist as to the mineralogist.—On the loess of Turkestan, by M. Guillaume Capus.

Brussels.

Academy of Sciences, March 5.—The following communications were read:—The male of certain Caligides, and a new species of this family, by M. P. J. Van Beneden. The author describes (1) the male of *Pandarus Cranchii;* (2) the male and female *Pandarus affinis*, n. sp.; (3) a new species, *Chlamys incisus;* and (4) the male of *Dinematoura elongata.*—Theoretical determination of the radius of the sphere of molecular activity of liquids in general, by M. P. De Heen. The conclusion is arrived at that the radius of the sphere of activity is proportional to the product of surface tension into molecular volume.—On the curve in conic sections, by M. Cl. Servais.—Researches on the physiology of respiratory centres, by Dr. Alfred Bienfait. The author adduces evidence to show that a single respiratory centre, isolated by two transverse sections from the accessory respiratory centres, controls the movements of the glottis.—On a new ptomaine obtained by the culture of *Bacterium Allii*, by Dr. A. B. Griffiths. In a former paper Dr. Griffiths described and named *Bacterium Allii*—a micro-organism found by him. This Bacteria produces a green pigment, soluble in alcohol, and possessing a particular absorption spectrum. In the presence of albuminoids, *Bacterium Allii* gives rise to a crystallizable ptomaine, which furnishes a chloroplatinate, having the formula, according to analyses, $(C_{10}H_{17}NHCl)Pt_2Cl_4$. The analysis of the base gave the formula $C_{10}H_{17}N$, which corresponds to that of chloroplatinate.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

Books.—The Apodidæ: H. M. Bernard (Macmillan).—Tanganyika: E C. Hore (Stanford).—Epidemics, Plagues, and Fevers: Hon. Rollo Russell (Stanford).—Hand-book of Jamaica, 1892 (Stanford).—A Treatise on Physical Optics: A. B. Basset (Bell).—The Landfall of Lief Erikson, A.D. 1000: E. N. Horsford (Boston, Damrell and Upham)—A Guide to Electric Lighting: S Bottone (Whittaker).—Elementary Lessons in Heat: S. E. Tillman, 2nd edition (Gay and Bird).—Les Altérations de la Personnalité: A. Binet (Paris, Alcan).—Thermodynamische Studien: J. W. Gibbs, translated by W. Ostwald (Leipzig, Engelmann).—English Botany; supplement to the 3rd edition, Part 1: N. E Brown (Bell).—Progressive Mathematical Exercises, 2nd series; A. T. Richardson (Macmillan).

Pamphlet.—The Wheat Plant, how it Feeds and Grows: W. Carruthurs (also 8 diagrams) (W. and A K. Johnston).

Serials.—Proceedings of the Rochester Academy of Science, vol. i. Brochures 1 and 2 (Rochester, N Y.).—Brain, Part 57 (Macmillan).—Journal of the Bombay Natural History Society, No. 4. vol. vi. (Bombay).—Journal of the Institution of Electrical Engineers, No. 97, vol. xxi. (Spon).—Bulletin of the New York Mathematical Society, vol. i. No. 7 (New York).—Physical Society of London, Proceedings, vol. xi. Part 3 (Taylor and Francis).—Proceedings of the Geologists' Association, vol. xii. Part 7 (Stanford)—Journal of the Royal Microscopical Society, April (Williams and Norgate)—A Manual of Orchidaceous Plants, Part 8 (Veitch).—Notes from the Leyden Museum, vol. xiv. Nos. 1 and 2 (Leyden, Brill)—American Journal of Mathematics, vol. xiv. No. 2 (Baltimore).—Transactions of the Royal Society of Victoria, vol. ii. Part 2, 1891 (Melbourne).—Report of the Geological Survey of India, vol. xxv. Part 1 (Calcutta).

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